

The Claimed Invention Is:

1 1. An apparatus for monitoring an ambulatory patient and
2 establishing communication to a caregiver regarding the wellness
3 parameters of such an ambulatory patient, said apparatus
4 comprising:

5 a physiological parameter transducing device, said device
6 generating an electronic signal representative of the value of
7 the physiological parameter being monitored;

8 a central processor device, said central processor
9 operatively coupled to said parameter transducing device and
10 processing said physiological parameter electronic signals;

11 an electronic receiver/transmitter communication device,
12 said communication device having one end operatively coupled to
13 said processor and another end operatively coupled to a
14 communication network, said communication device being activated
15 whenever the central processor recognizes a physiological
16 parameter within a predetermined range;

17 an input device, said input device operatively coupled to
18 said processor and configured to receive external commands;

19 an output device, said output device coupled to said
20 processor and providing information comprising external commands,
21 physiological symptoms, wellness parameters, and queries from
22 said communication device;

23 wherein said devices are integrated into a single unit.

1 2. The apparatus according to claim 1 wherein said integrated
2 unit comprises:

3 a base, said base including said physiological parameter
4 transducing device;

5 a housing, said housing including said central processor
6 device, said electronic receiver/transmitter communication
7 device, said input device and said output device; and

8 a support member, said support member having a first end
9 connected to said base and a second end connected to said
10 housing.

1 3. The apparatus according to claim 2, wherein said support
2 member is rigid.

1 4. The apparatus according to claim 2, wherein said support
2 member is adjustable.

1 5. The apparatus according to claim 2, wherein said support
2 member is flexible.

1 6. The apparatus according to claim 1 wherein the physiological
2 parameter transducing device is a scale for monitoring the body
3 weight of a chronic heart failure patient.

1 7. The apparatus according to claim 6 wherein said scale
2 comprises:
3 a top plate defining an interior and exterior surface;
4 a base plate defining an interior and exterior surface;
5 a load cell having a top and bottom side and a first and
6 second end disposed between said top plate and said base plate,
7 wherein the top side of the first end of said load cell is in
8 contact with a first support surface within the interior surface
9 of said top plate, and the bottom side of the second end of said
10 load cell is in contact with a second support surface within the
11 interior surface of said base plate.

1 8. The apparatus according to claim 7 wherein said load cell
2 further comprises a strain gage disposed on said load cell.

1 9. The apparatus according to claim 6 further comprising means
2 for determining whether said patient requires hospitalization or
3 medication adjustments based on said body weight.

1 10. The apparatus according to claim 6 wherein the scale is
2 accurately operable on a hard floor as well as a carpeted floor.

1 11. The apparatus according to claim 1 wherein the physiological
2 parameter transducing device is a scale for monitoring the body
3 weight of an overweight or obese individual.

1 12. The apparatus according to claim 11 further comprising means
2 for determining whether said individual requires diet
3 modification, or additional nutritional consultation.

1 13. The apparatus according to claim 1 further comprising means
2 for determining whether said patient requires hospitalization or
3 medication adjustments based on said wellness parameters.

1 14. The apparatus according to claim 1, wherein said
2 communication device is a modem.

1 15. The apparatus according to claim 1, wherein said
2 communication device is an RS-232 device.

1 16. The apparatus according to claim 1, wherein said
2 communication device is an Internet communication device.

1 17. The apparatus according to claim 1, wherein said
2 communication device is a satellite communication device.

1 18. The apparatus according to claim 1, wherein said
2 communication device is an infra-red communication device.

1 19. The apparatus according to claim 1, wherein said
2 communication device is a power line carrier communication
3 device.

1 20. The apparatus according to claim 1, wherein said
2 communication device is a Radio Frequency (RF) transceiver.

1 21. The apparatus according to claim 20, wherein said RF
2 transceiver has first and second portions, said first portion
3 being operatively coupled to said processor and in radio
4 communication with said second portion, said second portion being
5 located remotely from said first portion and operatively coupled
6 to said communication network.

1 22. The apparatus according to claim 21, wherein said second
2 portion includes means for wall mounting said second portion.

1 23. The apparatus according to claim 1 wherein a nurse is in
2 communication with said patient through said communication
3 network.

1 24. The apparatus according to claim 1 wherein said output
2 device is a synthetic speech communication device, said speech
3 communication device operatively coupled to said processor and
4 audibly communicating information to said patient.

1 25. The apparatus according to claim 1 wherein said output
2 device is a visual display device.

1 26. The apparatus according to claim 1 wherein said output
2 device is a pacemaker coupled to said data input device.

1 27. A system for monitoring an ambulatory patient and
2 establishing communication to a caregiver regarding the wellness
3 parameters of such an ambulatory patient between a first location
4 and a remote central office location, said system comprising:

5 a monitoring apparatus at said first location comprising:

6 (a) a physiological parameter transducing device, said
7 device generating an electronic signal representative of the
8 value of the physiological parameter being monitored;

9 (b) a central processor device, said central processor
10 operatively coupled to said parameter transducing device and
11 processing said physiological parameter electronic signals;

12 (c) an electronic receiver/transmitter communication
13 device, said communication device having one end operatively
14 coupled to said processor and another end operatively coupled to
15 a communication network, said communication device being
16 activated whenever the central processor recognizes a
17 physiological parameter within a predetermined range;

18 (d) an input device, said input device operatively
19 coupled to said processor and configured to receive external
20 commands;

21 (e) an output device, said output device coupled to
22 said processor and providing information comprising external
23 commands, physiological symptoms, wellness parameters, and
24 queries from said communication device, wherein said devices are
25 integrated into a single unit; and

26 a processing computer at a remote central office location in
27 communication with said remote monitoring apparatus for
28 exchanging information with said monitoring apparatus.

1 28. The system according to claim 27 wherein said integrated
2 unit comprises:

3 a base, said base including said physiological parameter
4 transducing device;

5 a housing, said housing including said central processor
6 device, said electronic receiver/transmitter communication
7 device, said input device and said output device; and

8 a support member, said support member having a first end
9 connected to said base and a second end connected to said
10 housing.

1 29. The system according to claim 28, wherein said support
2 member is rigid.

1 30. The system according to claim 28, wherein said support
2 member is adjustable.

1 31. The system according to claim 28, wherein said support
2 member is flexible.

1 32. The system according to claim 27 wherein the physiological
2 parameter transducing device is a scale for monitoring the body
3 weight of a chronic heart failure patient.

1 33. The system according to claim 32 wherein said scale
2 comprises:
3 a top plate defining an interior and exterior surface;
4 a base plate defining an interior and exterior surface;
5 a load cell having a top and bottom side and a first and
6 second end disposed between said top plate and said base plate,
7 wherein the top side of the first end of said load cell is in
8 contact with a first support surface within the interior surface
9 of said top plate, and the bottom side of the second end of said
10 load cell is in contact with a second support surface within the
11 interior surface of said base plate.

1 34. The apparatus according to claim 33 wherein said load cell
2 further comprises a strain gage disposed on said load cell.

1 35. The system according to claim 32 further comprising means
2 for determining whether said patient requires hospitalization or
3 medication adjustments based on said body weight.

1 36. The system according to claim 32 wherein the scale is
2 accurately operable on a hard floor as well as a carpeted floor.

1 37. The system according to claim 27 wherein the physiological
2 parameter transducing device is a scale for monitoring the body
3 weight of an overweight or obese individual.

1 38. The system according to claim 37 further comprising means
2 for determining whether said individual requires diet
3 modification, or additional nutritional consultation.

1 39. The system according to claim 27 further comprising means
2 for determining whether said patient requires hospitalization or
3 medication adjustments based on said wellness parameters.

1 40. The system according to claim 27, wherein said communication
2 device is a modem.

1 41. The system according to claim 27, wherein said communication
2 is over an RS-232 connection.

1 42. The system according to claim 27, wherein said communication
2 device is over an Internet communication device.

1 43. The system according to claim 27, wherein said communication
2 device is an infra-red communication device.

1 44. The system according to claim 27, wherein said communication
2 device is a power-line carrier communication device.

1 45. The system according to claim 27, wherein said communication
2 device is a satellite communication device.

1 46. The system according to claim 27, wherein said communication
2 device is a Radio Frequency (RF) transceiver.

1 47. The system according to claim 46, wherein said RF
2 transceiver has first and second portions, said first portion
3 being operatively coupled to said processor and in radio
4 communication with said second portion, said second portion being
5 located remotely from said first portion and is operatively
6 coupled to said communication network.

1 48. The system according to claim 47, wherein said second
2 portion includes means for wall mounting said second portion.

1 49. The system according to claim 27 wherein a nurse is in
2 communication with said patient through said communication
3 network.

1 50. The system according to claim 27 wherein said output device
2 is a synthetic speech communication device, said speech
3 communication device operatively coupled to said processor and
4 audibly communicating information to said patient.

1 51. The system according to claim 27 wherein said output device
2 is a visual display device.

1 52. The system according to claim 27 wherein said output is a
2 pacemaker coupled to said data input device.

1 53. A method for monitoring an ambulatory patient and
2 establishing communication to a caregiver regarding the wellness
3 parameters of such an ambulatory patient, said method comprising:
4 monitoring a physiological parameters;
5 generating an electronic signal representative of the value
6 of said physiological parameter;
7 in a central processor device, processing said physiological
8 parameter electronic signals;
9 communicating said processed electronic signals between a
10 first location and a remote central location;
11 inputting external commands into said processor; and
12 outputting said information.

1 54. The method according to claim 53 wherein the monitoring step
2 includes monitoring the body weight of a chronic heart failure
3 patient.

1 55. The method according to claim 54 further comprising
2 determining whether said patient requires hospitalization or
3 medication adjustments based on said body weight.

1 56. The method according to claim 53 further comprising
2 determining whether said patient requires hospitalization or
3 medication adjustments based on said wellness parameters.

1 57. The method according to claim 53 wherein the communicating
2 step includes communicating to a nurse.

1 58. The method according to claim 53 wherein said outputting
2 step includes audibly communicating information to said patient
3 through a synthetic speech communication device.

1 59. The method according to claim 53 wherein said outputting
2 step includes visually displaying information.

1 60. The method according to claim 49 wherein said outputting
2 step includes inputting data into a pacemaker device.